

Listing of Claims

This claim set is to replace all prior versions.

1. (Currently amended) A method of modifying quality of service for an existing user session in a network that comprises a regional access network that facilitates differentiated end-to-end data transport between a service provider and a customer premises network that includes customer premises equipment, comprising:

receiving a request at the service provider to change the quality of service associated with the existing user session; and

using application programming interface calls to send a query from the service provider to the regional access network to obtain quality of service capabilities from the regional access network;

presenting to the user via the service provider a quality of service option within the quality of service capabilities received from the regional access network; and

using the application programming interface calls at the service provider to communicate with the regional access network to modify the quality of service associated with the existing user session.

2. (Previously presented) The method of Claim 1, wherein receiving the request comprises:

initiating the request at the service provider to change the quality of service associated with the existing user session.

3. (Previously presented) The method of Claim 1, wherein receiving the request comprises:

receiving the request at the service provider from a user to change the quality of service associated with the existing user session.

4. (Previously presented) The method of Claim 3, wherein the quality of service associated with the existing user session is scheduling resources.

5. (Canceled)

6. (Canceled)

7. (Currently amended) The method of Claim [[6]] 4, further comprising:
obtaining a user selection of the quality of service option at the service provider; and
updating the regional access network with information to provide the ~~or~~ quality of
service option for the existing user session.

8. (Previously presented) The method of Claim 7, further comprising:
updating the customer premises equipment with the information to provide the quality of
service option for the existing user session.

9. (Previously presented) The method of Claim 8, wherein updating the customer
premises equipment with information comprises:

sending a quality of service -related message from the regional access network to the
customer premises equipment that contains a request for changing the quality of service
associated with the existing user session to the quality of service option in the customer premises
equipment.

10. (Previously presented) The method of Claim 9, wherein updating the regional
access network with information further comprises:

updating at least one of a rate limit and quality of service associated with a
communication queue in the regional access network that is used to process traffic associated
with the existing user session.

11. (Canceled)

12. (Canceled)

13. (Previously presented) The method of Claim 11, wherein updating the regional access network with information further comprises:

updating a rate limit associated with a communication queue in the regional access network that is used to process traffic associated with the existing user session.

14. (Previously presented) The method of Claim 5, further comprising:
authenticating the service provider with the regional access network prior to sending the query from the service provider to the regional access network.

15. (Previously presented) The method of Claim 14, wherein authenticating the service provider with the regional access network comprises:

sending an establish service session request message from the service provider to the regional access network that contains an identification of the service provider and authorization credentials; and

sending an establish service session response message from the regional access network to the service provider that contains an authentication result.

16. (Canceled)

17. (Previously presented) The method of Claim 1, wherein the request is a first request, the method further comprising:

updating the regional access network and the customer premises equipment with information to modify the quality of service associated with the existing user session; then

receiving a second request at the service provider to delete or change the quality of service associated with the existing user session; and

using application programming interface calls at the service provider to communicate with the regional access network to change the quality of service associated with the existing user session to a default value in the regional access network.

18. (Previously presented) The method of Claim 1, wherein the regional access network comprises a broadband remote access server.

19 (Currently amended) A system for modifying quality of service for a an existing user session in a network that comprises a regional access network that facilitates differentiated end-to-end data transport between a service provider and a customer premises network that includes customer premises equipment, comprising:

means for receiving a request at the service provider to change the quality of service associated with the existing user session; and

means for using application programming interface calls to send a query from the service provider to the regional access network to obtain quality of service capabilities from the regional access network;

means for presenting to the user via the service provider a quality of service option within the quality of service capabilities received from the regional access network; and

means for using the application programming interface calls at the service provider to communicate with the regional access network to modify the quality of service associated with the existing user session.

20. (Previously presented) The system of Claim 19, wherein the means for receiving the request comprises:

means for initiating the request at the service provider to change the quality of service associated with the existing user session.

21. (Previously presented) The system of Claim 19, wherein the means for receiving the request comprises:

means for receiving the request at the service provider from a user to change the quality of service associated with the existing user session.

22. (Previously presented) The system of Claim 21, wherein the quality of service associated with the existing user session is scheduling resources.

23. (Canceled).

24. (Canceled).

25. (Currently amended) The system of Claim ~~[[24]]~~ 22, further comprising:
means for obtaining a user selection of one of the quality of service option at the service provider; and

means for updating the regional access network with information to provide the quality of service option for the existing user session.

26. (Previously presented) The system of Claim 25, further comprising:
means for updating the customer premises equipment with the information to provide the quality of service option for the existing user session.

27. (Previously presented) The system of Claim 26, wherein the means for updating the customer premises equipment with information comprises:
means for sending a quality of service -related message from the regional access network to the customer premises equipment that contains a request for changing quality of service associated with the existing user session to the quality of service option in the customer premises equipment.

28. (Previously presented) The system of Claim 27, wherein the means for updating the regional access network with information further comprises:

means for updating at least one of a rate limit and quality of service associated with a communication queue in the regional access network that is used to process traffic associated with the existing user session.

29. (Canceled)

30. (Canceled)

31. (Previously presented) The system of Claim 29, wherein the means for updating the regional access network with information further comprises:

means for updating a rate limit associated with a communication queue in the regional access network that is used to process traffic associated with the existing user session.

32. (Previously presented) The system of Claim 23, further comprising:

means for authenticating the service provider with the regional access network prior to sending the query from the service provider to the regional access network.

33. (Previously presented) The system of Claim 32, wherein the means for authenticating the service provider with the regional access network comprises:

means for sending an establish service session request message from the service provider to the regional access network that contains an identification of the service provider and authorization credentials; and

means for sending an establish service session response message from the regional access network to the service provider that contains an authentication result.

34. (Canceled)

35. (Previously presented) The system of Claim 19, wherein the request is a first request, the system further comprising:

means for updating the regional access network and the customer premises equipment with information to modify the quality of service associated with the existing user session;

means for receiving a second request at the service provider to delete or change the quality of service associated with the existing user session; and

means for using application programming interface calls at the service provider to communicate with the regional access network to change the quality of service associated with the existing user session to a default value in the regional access network.

36. (Previously presented) The system of Claim 19, wherein the regional access network comprises a broadband remote access server.

37. (Currently amended) A computer program product for modifying quality of service for a an existing user session in a network that comprises a regional access network that facilitates differentiated end-to-end data transport between a service provider and a customer premises network that includes customer premises equipment, comprising:

a computer readable storage medium having computer readable program code embodied therein, the computer readable program code comprising:

computer readable program code configured to receive a request at the service provider to change the quality of service associated with the existing user session; and

computer readable program code configured to use application programming interface calls to send a query from the service provider to the regional access network to obtain quality of service capabilities from the regional access network;

computer readable program code configured to present to the user via the service provider a quality of service option within the quality of service capabilities received from the regional access network; and

computer readable program code configured to use the application programming interface calls at the service provider to communicate with the regional access network to modify the quality of service associated with the existing user session.

38. (Previously Presented) The computer program product of Claim 37, wherein the computer readable program code configured to receive the request comprises:

computer readable program code configured to initiate the request at the service provider to change the quality of service associated with the existing user session.

39. (Previously presented) The computer program product of Claim 37, wherein the computer readable program code configured to receive the request comprises:

computer readable program code configured to receive the request at the service provider from a user to change the quality of service associated with the existing user session.

40. (Previously presented) The computer program product of Claim 39, wherein the quality of service associated with the existing user session is scheduling resources.

41. (Canceled)

42. (Canceled).

43. (Currently amended) The computer program product of Claim ~~[[42]]~~ 40, further comprising:

computer readable program code configured to obtain a user selection of the quality of service option at the service provider; and

computer readable program code configured to update the regional access network with information to provide the quality of service option for the existing user session.

44. (Previously presented) The computer program product of Claim 43, further comprising:

computer readable program code configured to update the customer premises equipment with the information to provide the quality of service option for the existing user session.

45. (Previously presented) The computer program product of Claim 44, wherein the computer readable program code configured to update the customer premises equipment with information comprises:

computer readable program code configured to send a quality of service -related message from the regional access network to the customer premises equipment that contains a request for changing the quality of service associated with the existing user session to the quality of service option in the customer premises equipment.

46. (Previously presented) The computer program product of Claim 45, wherein the computer readable program code configured to update the regional access network with information further comprises:

computer readable program code configured to update at least one of a rate limit and quality of service associated with a communication queue in the regional access network that is used to process traffic associated with the existing user session.

47. (Canceled)

48. (Canceled).

49. (Previously presented) The computer program product of Claim 47, wherein the computer readable program code configured to update the regional access network with information further comprises:

computer readable program code configured to update a rate limit associated with a communication queue in the regional access network that is used to process traffic associated with the existing user session.

50. (Previously presented) The computer program product of Claim 41, further comprising:

computer readable program code configured to authenticate the service provider with the regional access network prior to sending the query from the service provider to the regional access network.

51. (Previously presented) The computer program product of Claim 50, wherein the computer readable program code configured to authenticate the service provider with the regional access network comprises:

computer readable program code configured to send an establish service session request message from the service provider to the regional access network that contains an identification of the service provider and authorization credentials; and

computer readable program code configured to send an establish service session response message from the regional access network to the service provider that contains an authentication result.

52. (Canceled)

53. (Previously presented) The computer program product of Claim 37, wherein the request is a first request, the computer program product further comprising:

computer readable program code configured to update the regional access network and the customer premises equipment with information to modify the quality of service associated with the existing user session;

computer readable program code configured to receive a second request at the service provider to delete or change the quality of service associated with the existing user session; and

computer readable program code configured to use application programming interface calls at the service provider to communicate with the regional access network to change the quality of service associated with the existing user session to a default value in the regional access network.

54. (Previously presented) The computer program product of Claim 37, wherein the regional access network comprises a broadband remote access server.

55. (Currently amended) A method of modifying quality of service for an existing user session in a network that comprises a regional access network that facilitates differentiated end-to-end data transport between a service provider and a customer premises network that includes customer premises equipment, comprising:

receiving a request at the service provider to change the quality of service associated with the existing user session; and

using messaging interface calls at the service provider to send a query from the service provider to the regional access network to obtain quality of service capabilities from the regional access network;

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presenting to the user via the service provider a quality of service option within the quality of service capabilities received from the regional access network; and

using messaging interface calls at the service provider to communicate with the regional access network to modify the quality of service associated with the existing user session.